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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,163	03/29/2001	Guizeng Shi	L9289.01113 PCT	3541
7590 07/22/2005 Steven Davis Miller & Mosher 1615 L Street N W Suite 850 Washington, DC 20036			EXAMINER PATEL, JAY P	
			ART UNIT 2666	PAPER NUMBER

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,163

Applicant(s)

SHI ET AL.

Examiner

Jay P. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/09/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26 and 39-43 is/are rejected.
- 7) ☒ Claim(s) 27-38 and 44-46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 24, 39-43 rejected under 35 U.S.C. 102(e) as being anticipated by Basu et al. (US 6097733 A).
3. In regards to claims 24, 39-40 and 42, Basu et. al anticipates a wireless communication apparatus in figure 1 where mobile terminals 104a-c and base station 102 comprise a communication system.

In further regards, a monitor that monitors, in each frame, the number of transmission queuing cells that uplink storage and downlink storages of a plurality of communication users each store is anticipated by figure 9 step 902 where, the bandwidth allocator monitors multimedia data flow for each mobile terminal that has been allocated multimedia bandwidth. Furthermore, the transmitting data buffer (figure 5, buffer 524) and the receiving data buffer (figure 5, buffer 512) anticipate the uplink and downlink storage means respectively.

In further regards, an allocator that allocates, in each frame, the bandwidth negotiation/management unit 506 in figure 5 anticipates unit sub-slots to the

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transmission queuing cells according to the number of transmission queuing cell in each storage. Furthermore, the bandwidth negotiation/management unit allocates bandwidth in the form of TDMA time slots (see column 2, lines 49-54).

In regards to claim 41, steps 701-706 in figure 7 anticipate the process wherein the communication terminal apparatus reports the number of transmission queuing cells to the base station. At step 701, the base station waits for an access request, at step 702, the access request is validated and at step 704, the nature of the request is examined; i.e. where voice or multimedia bandwidth is requested (see figure 7 and column 12, lines 4-14 and 52-66).

In regards to claim 43, performing a comparison between the total number of particular transmission queuing cells in each storage and a threshold is anticipated by step 912 in figure 9. At step 912, the system determines if a bandwidth surplus has occurred. The surplus is defined to occur when buffer contents are below a threshold for a period of time when there is no communication between the mobile terminal and the base station (see figure 9, step 912 and column 14, lines 36-42). In further regards, the step of performing then allocation according to a result of the comparison is anticipated by step 914 in figure 9. If a surplus occurs at step 912, at step 914, the system deallocates multimedia bandwidth from a particular mobile terminal (see figure 9, step 914 and column 14, lines 42-46). The deallocation process may include a smallest sized segment of a larger sized segments based upon what was previously allocated (see column 14, lines 46-50). Therefore, in essence, the surplus bandwidth is re-allocated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basu et al. (US 6097733 A) in view of Hung et al. (US 6353618 B1).

In regards to claims 25 and 26, Basu et al. ^{es}teach all the limitations of claim 24 as stated above. Basu fails to teach the limitations of an apparatus allocating the unit sub-slots within a rang that can be stored in a unit frame following a constant regulation and wherein the constant regulation comprises equal allocation of unit sub-slots to the transmission queuing cells in the uplink and downlink storages and that the transmission queuing cells to which the unit sub-slots are allocated are deleted from the storages.

Hung teaches the above-mentioned limitations; in particular Hung teaches the concept of scheduling queued sub-slots onto an outgoing scheduling frame (see figure 2, scheduling frame 18 having a predetermined duration, arbiter 10 and column 6, lines 13-16).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Basu et al. with those of Hung et al. such that bandwidth is allocated in the form of timeslots within frames

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according to constant regulation. The motivation to combine these teachings would have been to insure the most efficient usage of available bandwidth in the form of timeslots within the fixed length frames, taught by Hung et al. (see column 3 lines, 7-10; where the arbiter must meet QoS and bandwidth requirement).

Allowable Subject Matter

6. Claims 27-38 and 44-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

7. In light of the amendment filed on 02/09/2005, applicant's arguments are moot.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jay P. Patel
Assistant Examiner
Art Unit 2666

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